What is claimed is:

1.   A method of setting up and using a computer-assisted memory translation scheme for translating a sentence between two languages comprising the steps of:

5   constructing a template database having a plurality of templates;

representing said plurality of templates by a plurality of document vectors, respectively;

projecting the document vectors into latent semantic space;

matching the sentence to a subset of said plurality of templates having a closest

10 similarity to said sentence in said latent semantic space;

selecting, from said subset, a set of items having a heaviest weighted common subsequence between said sentence and said subset of templates; and

selecting, from the set of items, a template closest to a meaning of said sentence.

15   2.   A method of setting up and using a computer-assisted memory translation scheme for translating a sentence between a source language and a target language comprising the steps of:

setting up a translation memory system with a plurality of templates using reduced latent semantic vector space; and

20   performing a translation process using said translation memory system and a determination of common subsequences between the sentence and the plurality of templates.

3.   The method as set forth in claim 2, said step of performing including,

finding a subset of templates having closest similarity to the sentence based on a similarity measurement of the reduced latent semantic vector space;

selecting, from said subset, a set of items having a heaviest weighted common subsequence between said sentence and said subset of templates; and

selecting, from the set of items, a template closest to said sentence as a sentence translation.

4.   The method as set forth in claim 2, wherein said step of setting up a translation memory system comprises the steps of:

preprocessing text to identify word and noun phrases, and assigning weights to the words within each template;

constructing system terms by setting up a term list and choosing global weights for the terms on the term list;

assigning normalized latent semantic vectors of the templates; and

setting up a reduced latent semantic vector space.

5.   The method as set forth in claim 4, wherein said global weights are set to "1" by default.

6.   The method as set forth in claim 4, wherein said global weights are set up using one of uniform weighting, domain specific weighting and entropy weighting.

7.   The method as set forth in claim 4, wherein the step of setting up a reduced latent semantic vector space is performed using a singular value decomposition algorithm.

8.   The method as set forth in claim 3, further comprising the step of editing the templates in both the source and target languages to reflect the sentence translation and improve the database.

9.   The method as set forth in claim 3, further comprising the step of determining a total weight of that portion of the template including the heaviest weighted common subsequence.

10.   The method as set forth in claim 3, the step of selecting a template further comprising the steps of:

        choosing a syntactically valid path in a target language template;

        registering the sentence into source language template, t, by combining each pair of matched terms into a proper template node to obtain a new source language template structure t_x;

        if the path chosen is a correct translation of the sentence, editing template t_x so that each path of template t_x represents a correct sentence having a same meaning as the sentence, and replacing the template t in the database with the new template t_x; and

        if the path chosen is not a correct translation of the sentence, obtaining a new target language template structure t_y so that each path of t_y is a correct translation of the sentence, editing t_x so that each path of t_x represents a correct sentence having a same meaning as the sentence, and adding together t_y and t_x and inserting the sum as a new item in the database.